# METHOD OF ENCODING ALPHABETIC CHARACTERS FOR A CHORD KEYBOARD

## BACKGROUND OF THE INVENTION

The present invention relates to a method of encoding alphabetic characters for a chord keyboard. More specifically, the present invention relates to a method of encoding alphabetic characters for a chord keyboard and generating electrical signals identifying the alphabetic characters to a word processor or the like.

Chord keyboards are known in the art and generally include at least five character keys, one for the thumb and each of the four fingers of a single hand of an operator. These chord keyboards are designed so that keys may be actuated either individually or in chord combinations to selectively generate the 26 letters of the English alphabet. In order to make these chord keyboards practical, the codes or conventions for generating the alpha characters should be easy to learn and remember. Chord keyboards of the type described are disclosed in U.S. Pat. Nos. 4,443,789 and 4,360,892 to Endfield. Another example of such a keyboard is described in U.S. Pat. No. 4,791,408 to Heusinkveld.

Attempts have been made to simplify the encoding of a chord keyboard for ease of learning and memory. Endfield for example in the above-described patents discloses a visual method for facilitating ease of learning and memory whereby the various chord combinations of the alpha key actuations are intended to visually illustrate pictographs of the letters which the chords represent. While this method of learning the chord combinations may be a step in the right direction, it falls far short of providing a simple learning technique for the chords. Accordingly, a need in the art exists for an improved method for encoding the alphabetic characters of a chord keyboard which is learnable.

## SUMMARY OF THE INVENTION

Accordingly, a primary object of the present invention is to provide an improved method for encoding the alphabetic characters of a chord keyboard which is learnable and usable.

It is a further object of the present invention to provide a method of encoding a chord keyboard which facilitates fast one-hand typing speed.

It is another object of the present invention to provide a method of encoding a chord keyboard which enables the keyboard per se to be miniaturized and ergonomically designed to free one hand and the need to sit while typing.

These and other objects of the present invention are fulfilled by providing a method of encoding alphabetic characters and inputting electrical signals defining those characters to a computer comprising the steps of: providing a keyboard having five individual alpha input keys, one alpha input key being operatively associated with an operator's thumb and the remaining keys each being dedicated for operation by one finger of the operator's hand, said keys being actuable either individually or in chord combinations for encoding said alphabetic characters and inputting said signals to the computer; designating each alpha input key to represent one of the five vowels "a", "e", "i", "o", "u" when actuated individually without actuation of any other alpha keys in combination therewith; designating combinations of alpha input keys to represent each consonant letter of the alphabet; and generating unique electrical signals in response to the actuation of one or more of said alpha keys to selectively input the electrical signals defining the alphabetic characters to the computer.

The majority of the chord combinations designated to represent a consonant in a preferred embodiment include an alpha input key designated to represent the last vowel preceding that consonant in alphabetical order.

Also in a preferred embodiment successive consonants moving in alphabetical order are defined by a chord combination which includes the addition of the next successive alpha key moving seriatim from the thumb to the little finger (pinky) of the typist's hand, whereby the sequential movement of the operator's fingers functions as a mnemonic to the typist for the chord combinations.

Further scope of applicability of the present invention will become apparent from the detailed description given hereinafter. However, it should be understood that the detailed description and specific examples, while indicating preferred embodiments of the invention, are given by way of illustration only, since various changes and modifications within the spirit and scope of the invention will become apparent to those skilled in the art from this detailed description.

## BRIEF DESCRIPTION OF THE DRAWINGS

The present invention will become more fully understood from the detailed description given hereinbelow and the accompanying drawings which are given by way of illustration only, and thus, are not limitative of the present invention and wherein:

FIG. 1 is a schematic block diagram illustrating a chord keyboard and a standard keyboard coupled to a microprocessor in order to illustrate the hardware of the system in which the method of the present invention would be utilized; and

FIG. 2 is a top plan view of a one-handed, five key chord keyboard usable in the system of FIG. 1.

## DESCRIPTION OF PREFERRED EMBODIMENTS

Referring to FIG. 1 there is illustrated a chord keyboard 10 which could be of the type described in the aforementioned Endfield and Heusinkveld patents. The chord keyboard is utilized to generate alphabetic character signals and input the signals to a microprocessor 14 in response to individual or chord combination key actuations. The chord keyboard 10 may be used as a supplement to a standard keyboard 12 or it may be used in place of the standard keyboard 12 as desired. Microprocessor 14 would in most instances be part of a word processing system and would be coupled to peripheral components such as monitors and printers through an input/output bus 16.

Referring to FIG. 2 there is illustrated in diagrammatic form a chord keyboard 10. The keyboard 10 includes 5 alpha input keys dedicated for actuation by the thumb, index, middle, ring and pinky fingers, respectively. For the other hand of the same user, the thumb is still the number 1 key and the rest of the fingers follow in succession in mirror image. For the purposes of explanation of the method of coding of the present invention these keys are numbered 1 to 5, respectively, so that the thumb is 1, the index finger is 2, the middle finger is 3, the ring finger is 4, and the pinky or little finger is 5.